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Enhancing mathematics teaching in India

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Enhancing Mathematics Teaching in India

I enthusiastically accepted the invitation from Dr Punjabi, the principal of G N College of Arts, Science & Commerce in Mumbai, to give (i) a presentation to academics involved with teaching mathematics and statistics to undergraduates and (ii) a lecture to undergraduates reading statistics for business, management, accountancy and finance, both on 16 December 2010.

My presentation was at 11.30 a.m. and the theme was 'Improving the engagement and enhancing the learning experience of mathematics and statistics undergraduates'. It was attended by 53 delegates from various colleges of the University of Mumbai.



First Presentation: Teaching Mathematics

I began my presentation by discussing the issues related to student engagement in mathematics and statistics classes/lectures and how this can influence student participation and performance. I shared some aspects of my teaching approach devised to make my classes/lectures interactive. Furthermore, I discussed how the effective use of assessment and feedback can be used to facilitate learning and improve students' performance.

My ideas and suggestions were well received and followed by several thought provoking questions leading to a very interesting and lively discussion. The session was officially closed by the Principal just after 12.30pm. During the discussion after my presentation, the academics new to teaching seemed more enthusiastic and receptive to my ideas than the more experienced ones. I was however delighted to find later on when I read the completed feedback forms, handed in by 81% of the delegates, that 91% thought my presentation would positively influence their future teaching practice.

Two delegates commented on how they believe my ideas could be extended to teaching in schools. They felt that arousing students' interest in mathematics and statistics from an early age would benefit them later in life. Another delegate commented 'Next time, I would like to have more useful tips on class control'. I have also previously developed strategies for this.

The Undergraduate Course Coordinator at G N College commented 'It was a great pleasure for me as a teacher to understand and overcome the problems of students' and [understand] how to make maths and stats more relevant'.

After the session, I was delighted to be approached by the Principal of Education and Research, College of Mumbai University, who invited me to give a talk to trainee teachers at her college.

My second lecture was on 'Statistical Tools used in Decision Making for Business, Management and Finance' at 2 p.m. the same day, and was oversubscribed, which was very encouraging.

I started by discussing the relevance of statistics to various professions, by giving them real life examples as well as explaining how it can help with practical problem solving. I explained how a sound knowledge of statistics can help you fulfil the expectations of prospective employers. Furthermore, statistical thinking and reasoning can help develop several other transferrable skills that enhance CVs and employability.

I displayed a few questions relating to problematic scenarios from business, finance and management that required the application of statistics. This increased student participation and interaction. I displayed the solutions after they had at least enough time to discuss an approach to solve them. I highlighted the statistical concepts and theories needed for solving each problem.

I also demonstrated a few 'fun' probability questions, just to demonstrate that statistics does not have to be a dry and tedious subject. These types of problems can liven up the lecture room and have always been a huge success with my own students!



Undergraduate afternoon session.

My hour-long lecture was followed by some interesting questions and a lively discussion that lasted for about half an hour. I had interesting questions such as, 'What advice do you have for us to help us compete in a global job market?'

The organisers handed out the feedback forms I had prepared for the lecture to 25 randomly chosen students. However, everyone was keen to provide feedback and happy to wait for extra copies. I received 111 fully completed forms and to my pleasant surprise, 105 students stated that they had found my lecture interesting. As the session came to a close at 3.30 p.m., many students approached me to thank me, with one saying it had been 'the best day of his life' which I was absolutely astonished to hear!

From the viewpoint of the intrinsic value of the entire experience, I gained the personal satisfaction of having contributed towards enhancing students' perceptions of statistics and mathematics and hopefully improving their future career options.

I look forward to further interaction with the students and academics at Mumbai University. □

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